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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/642,469

08/14/2003

Dmitrii Loukianov

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EXAMINER

MUI, GARY

ART UNIT

PAPER NUMBER

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/30/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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<b>Office Action Summary</b>	Application No. 10/642,469	Applicant(s) LOUKIANOV, DMITRII	
	Examiner Gary Mui	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Drawings*

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because in figure 4 boxes 402 and 410 and figure 6 boxes 602 and 604 are blacked out and unreadable. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not

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accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

#### *Specification*

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

#### *Claim Objections*

5. Claims 13, 14, 32, and 33 are objected to under 35 CFR 1.75 because of the following informalities:

For claim 13, the occurrence of "a media device" seems to refer back to "a media device" previously recited in claim 10, if this is true, it is suggested to the applicant to change "a media device" to --the media device--. Similar problem exists for claims 14, 32, and 33.

Appropriate correction is required.

*Claim Rejections - 35 USC § 101*

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 20 – 38 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

For claims 20 – 38, the claims are directed to a computer program per se, which is non-statutory. The claims recite a storage medium having a plurality of machine accessible instructions but fail to mention a computer readable medium with computer executable instructions and without a computer readable medium with computer executable instructions the functionality of the claimed invention cannot be carried out.

*Note*

7. In claims 13 and 32, the phrase “capable of” are not positive claim limitations. Therefore the limitations after the phrase “capable of” are not considered the claimed invention. It is suggested to the applicant to remove the phrase.

*Claim Rejections - 35 USC § 103*

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1 – 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Gestel (US 2005/0237937 A1) in view of Hakkarainen et al. (US 6,728,241 B2).

For claims 1, 7, 8, 20, 26, and 27, Van Gestel teaches inspecting a data packet sent by an application to determine a location of a timestamp filed in the data packet; generating a new timestamp in real-time, the new timestamp accurately defining the time of transmission of the data packet; inserting the new timestamp into the timestamp field of the data packet in place of an original timestamp (see paragraph 0031 lines 1 – 6, the packet is stamped with a transmission stamped at the moment the packet is delivered to the transmitter); and transmitting the data packet over a network to a receiver (see figure 1 box labeled transmit source packet); the network comprises a data packet-based network (see paragraph 0027 lines 1 – 3, transmitter and receiver a connected through a packet switched network); and the network comprises of a wired network or wireless network (see paragraph 2 lines 14 – 18). Van Gestel fails to teach inspecting a data packet sent by an application to determine a protocol type of the data packet and match the data packet to a pre-determined protocol type. Hakkarainen et al. from the same field of endeavor teaches detecting a plurality of IPv4 connections in accordance with a set of predetermined conditions that are applied to selected

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packet segments of a MPEG-2 transport stream is provided. All selected packets are inputted to a processor for subsequent processing (see column 2 lines 36 – 43). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the protocol filter as taught by Hakkarainen et al. prior to the time stamping process as taught by Van Gestel. The motivation for doing this is to ease the load on the processor because it does not have to process unnecessary packets.

For claims 2 – 5 and 21 – 24, Van Gestel teaches the receiver, upon receiving the data packet, taking a sample of a local clock represents a local timestamp and wherein the time instance is associated with an arrival time of the received data packet and processing the local timestamp and the new timestamp in the received data packet to determine an error signal, wherein the error signal is used to adjust the local clock within the receiver (see paragraph 0031 lines 14 – 19, see figure 1 boxes 10 and 11), the local timestamp is sent along with the received data packet to a receiver application prior to processing the local timestamp and the new timestamp. Van Gestel fails to teach that the identification criterion comprises at least one of the pre-determined protocol type, a MAC address, a data type, a source address, and a destination address; and if the received data packet is a mismatch forwarding the mismatched data packet to an application without further processing. Hakkarainen et al. from the same field of endeavor teaches detecting a plurality of IPv4 connections in accordance with a set of predetermined conditions that are applied to selected packet segments of a MPEG-2 transport stream is provided. All selected packets are inputted to a processor for subsequent processing (see column 2 lines 36 – 43). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the protocol filter as taught by

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Hakkarainen et al. prior to the receiving time stamping process as taught by Van Gestel. The motivation for doing this is to ease the load on the processor because it does not have to process unnecessary packets.

For claims 6 and 25, Van Gestel teaches the pre-determined protocol type comprises a Real-Time Protocol (see paragraph 0027 lines 1 – 5).

For claims 9 and 28, Van Gestel teaches all of the claimed subject matter with the exception of inspecting the data packet to determine a protocol type of the data packet further comprises comparing a match string with corresponding bits in the data packet based on a mask string, wherein the match string represents a string of bytes that match the predetermined protocol type and the mask string indicates the bits in the match string that are to be compared with the corresponding bits of the data packet. Hakkarainen et al. from the same field of endeavor teaches a MPEG transport stream may contain packets that correspond to different services and that are distinguished by a predetermined combination of segments (fields). Receiver front-end converts signal into a baseband format, such that MPEG transport stream can be filtered by programmable filter in order to determine whether the predetermined combination of segments in transport stream is indicative of a desired service within transport stream (see column 3 lines 43 – 51, the matching of the protocols). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to compare the protocol fields to a predetermined combination as taught by Hakkarainen et al. prior to the time stamping process as taught by Van Gestel. The motivation for doing this is to quickly and correctly find the wanted data packets for processing.



For claims 10, 12, 29, and 31, Van Gestel receiving a data packet from a transmitter over a network; searching the received data packet to locate a timestamp field within the received data packet as the received data packet is sent to a media device, generating a local timestamp in real-time indicative of the time instance in which the received data packet arrived; appending the local timestamp to the received data packet to be sent to the media device (see paragraph 0031 lines 6 – 14); and determining an error signal for adjusting a frequency of a local clock using the local timestamp and a timestamp extracted from the received data packet (see paragraph 0031 lines 14 – 19, see figure 1 boxes 10 and 11). Van Gestel fails to teach searching the received data packet to determine if the received data packet matches a pre-determined identification criterion and that the identification criterion comprises at least one of the pre-determined protocol type, a MAC address, a data type, a source address, and a destination address. Hakkarainen et al. from the same field of endeavor teaches detecting a plurality of IPv4 connections in accordance with a set of predetermined conditions that are applied to selected packet segments of a MPEG-2 transport stream is provided. All selected packets are inputted to a processor for subsequent processing (see column 2 lines 36 – 43). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the protocol filter as taught by Hakkarainen et al. prior to the time stamping process as taught by Van Gestel. The motivation for doing this is to ease the load on the processor because it does not have to process unnecessary packets.

For claims 11 and 30, Van Gestel teaches the data packet received from the transmitter comprise an updated timestamp, the updated timestamp accurately indicating a time the data

packet was transmitted (see paragraph 0031 lines 3 – 5, timestamp value is placed the moment first byte is sent to transmitter).

For claims 13, 14, 32, and 33, Van Gestel teaches the media device comprises a digital device capable of processing digital media content and the media device comprise at least one of a personal computer, a workstation, a laptop and a personal digital assistance (see paragraph 0027 lines 14 –21).

For claims 15 and 34, Van Gestel teaches all of the claimed subject matter with the exception of searching the data packet to determine if the received data packet a matches a predetermined identification criterion within the received data packet further comprises comparing a match string with corresponding bits in the data packet based on a mask string, wherein the match string represents a string of bytes that match the predetermined protocol type and the mask string indicates the bits in the match string that are to be compared with the corresponding bits of the received data packet. Hakkarainen et al. from the same field of endeavor teaches a MPEG transport stream may contain packets that correspond to different services and that are distinguished by a predetermined combination of segments (fields). Receiver front-end converts signal into a baseband format, such that MPEG transport stream can be filtered by programmable filter in order to determine whether the predetermined combination of segments in transport stream is indicative of a desired service within transport stream (see column 3 lines 43 – 51, the matching of the protocols). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to compare the protocol fields to a predetermined combination as taught by Hakkarainen et al.

prior to the time stamping process as taught by Van Gestel. The motivation for doing this is to quickly and correctly find the wanted data packets for processing.

For claims 16 and 35, Van Gestel teaches all of the claimed subject matter with the exception of if the received data packet is a mismatch to the pre-determined identification criterion, forwarding the received data packet to the media device without further processing within the receiver. Hakkarainen et al. from the same field of endeavor teaches that all selected packets are inputted to a processor for subsequent processing (see column 2 lines 42 – 43, selected packets are sent for further processing). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to process selected packets as taught by Hakkarainen et al. prior to the time stamping process as taught by Van Gestel. The motivation for doing this is to lessen the burden on the processor.

For claims 17 and 36, Van Gestel teaches the pre-determined protocol type comprises a Real-Time Protocol (see paragraph 0027 lines 1 – 5).

For claims 18, 19, 37, and 38, Van Gestel teaches determining an error signal for adjusting a frequency of a local clock using the local timestamp and a timestamp extracted from the received data packet further comprises: processing the local timestamp and the timestamp extracted from the received data packet; determining an error signal between the processed local timestamp and the processed timestamp extracted from the received data packet (see paragraph 0031 lines 14 – 19); and using the error signal as a feedback signal to adjust the frequency of the local clock in the receiver to synchronize the local clock with a clock in the transmitter (see paragraph 0016 lines 1 – 7) and processing the local timestamp and the

timestamp extracted from the received data packet comprises one or more of low-pass filtering, jitter filtering, and timing correction techniques (see paragraph 0031 lines 14 – 20).

For claims 39 and 43, Van Gestel teaches a transmitter to transmit data packets over a network (see figure 1 box 2), the trans comprising a transmit timestamp generator and insertion circuit (see figure 1 box 7 and 8), the timestamp generator and insertion circuit used to generate a transit timestamp and to insert the timestamp into the timestamp field in real-time as to the data packet are being transmitted over the network (see paragraph 0031 lines 1 – 8) and the snapshot of the transmit timestamp counter is based on a time of the transmit program clock (see paragraph 0031 lines 9 – 14). Van Gestel fails to teach the transmit match filter used to determine whether the data packets being transmitted match a pre-determined protocol. Hakkarainen et al. from the same field of endeavor teaches detecting a plurality of IPv4 connections in accordance with a set of predetermined conditions that are applied to selected packet segments of a MPEG-2 transport stream is provided. All selected packets are inputted to a processor for subsequent processing (see column 2 lines 36 – 43). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the protocol filter as taught by Hakkarainen et al. prior to the time stamping process as taught by Van Gestel. The motivation for doing this is to ease the load on the processor because it does not have to process unnecessary packets.

For claim 40, Van Gestel teaches a receiver to receive the data packets transmitted over the network, the local timestamp generator circuit used to generate a local timestamp in real-time when the timestamp field is located (see paragraph 0031 lines 9 – 12). Van Gestel fails to teach a receive match filter used weather the received data packets match the pre-determined

protocol. Hakkarainen et al. from the same field of endeavor teaches detecting a plurality of IPv4 connections in accordance with a set of predetermined conditions that are applied to selected packet segments of a MPEG-2 transport stream is provided. All selected packets are inputted to a processor for subsequent processing (see column 2 lines 36 – 43). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the protocol filter as taught by Hakkarainen et al. prior to the time stamping process as taught by Van Gestel. The motivation for doing this is to ease the load on the processor because it does not have to process unnecessary packets.

For claim 41, Van Gestel teaches the local timestamp and transmit timestamp are processed to determine an error signal, wherein the error signal is used to correct a local clock within the local timestamp generator circuit to synchronize the local clock with a transmit program clock within the transmit timestamp generator and insertion circuit (see column 0031 lines 14 – 21 and lines 0035 lines 4 – 13)

For claim 42, Van Gestel teaches the transmit timestamp generator and insertion circuit comprises a transmit program clock coupled to a transmit timestamp counter; a transmit snapshot register and the transmit snapshot register to an output path to allow the transmit timestamp to be inserted in the timestamp field of the data packets transmitted over the network (see column 0031 lines 1 – 9). Van Gestel fails to teach a transmit match filter and a switch where the match filter provides an indication to enable the switch. Hakkarainen et al. from the same field of endeavor teaches the programmable filter arrangement determines if each relevant segment is equal to a predetermined value. If so, a Boolean value corresponding to the filter segment is “true” or “1.” If not, the Boolean value is “false” or “0.” Boolean

logic is consequently applied to the corresponding Boolean values in order to process the desired program in transport stream (see column 3 lines 54 – 60). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the match filter as taught by Hakkarainen et al. prior to processing of the timestamp as taught by Van Gestel. The motivation for doing this is to ease the processor from unnecessary data processing.

For claim 44, Van Gestel teaches all of the claimed subject matter with the exception of the match filter and an indication from the match filter which enable the receiver to obtain a snapshot of the receiver timestamp counter. Hakkarainen et al. from the same field of endeavor teaches the programmable filter arrangement determines if each relevant segment is equal to a predetermined value. If so, a Boolean value corresponding to the filter segment is “true” or “1.” If not, the Boolean value is “false” or “0.” Boolean logic is consequently applied to the corresponding Boolean values in order to process the desired program in transport stream (see column 3 lines 54 – 60). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the filter and the Boolean value produced by the filter as taught by Hakkarainen et al. in the receiving packet time stamping process as taught by Van Gestel. The motivation for doing this is lessen the burden of the processor.

### *Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Woodhead et al. (US 5,640,388), Sato et al. (US 6,259,694 B1), Falco et al. (US

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6,687,752 B1), and Fairman (US 2005/002402 A1) are cited to show a Timestamping network controller for streaming media applications.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary Mui whose telephone number is (571) 270-1420. The examiner can normally be reached on Mon. - Thurs. 9 - 3 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GM

07-26-2007

  
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